

TWO NEW SPECIES OF PYRALIDAE (LEPIDOPTERA) FROM TEXAS

ANDRÉ BLANCHARD AND EDWARD C. KNUDSON

(AB) 3023 Underwood, Houston, Texas 77025; (ECK) 804 Woodstock, Bellaire, Texas 77401.

Abstract.—Two new moths of the family *Pyralidae* are described from Texas, *Petrophila heppneri* (subfamily *Nymphulinae*) and *Eoreuma arenella* (subfamily *Crambinae*). The imagines and male and female genitalia are figured.

The first species described below, *Petrophila heppneri*, was taken first by the senior author and recognized as new following the publication of the MONA fascicle on the *Nymphulinae* by Munroe (1972). The junior author later obtained a series of this insect, and still later, received a reprint from Heppner, which indicated that he had previously taken this species in Texas. Heppner (1976), recognized his specimens as new, but had only female examples. The second species, *Eoreuma arenella*, is described from a series taken by the senior author on North Padre Island, Texas.

Petrophila heppneri Blanchard and Knudson, NEW SPECIES

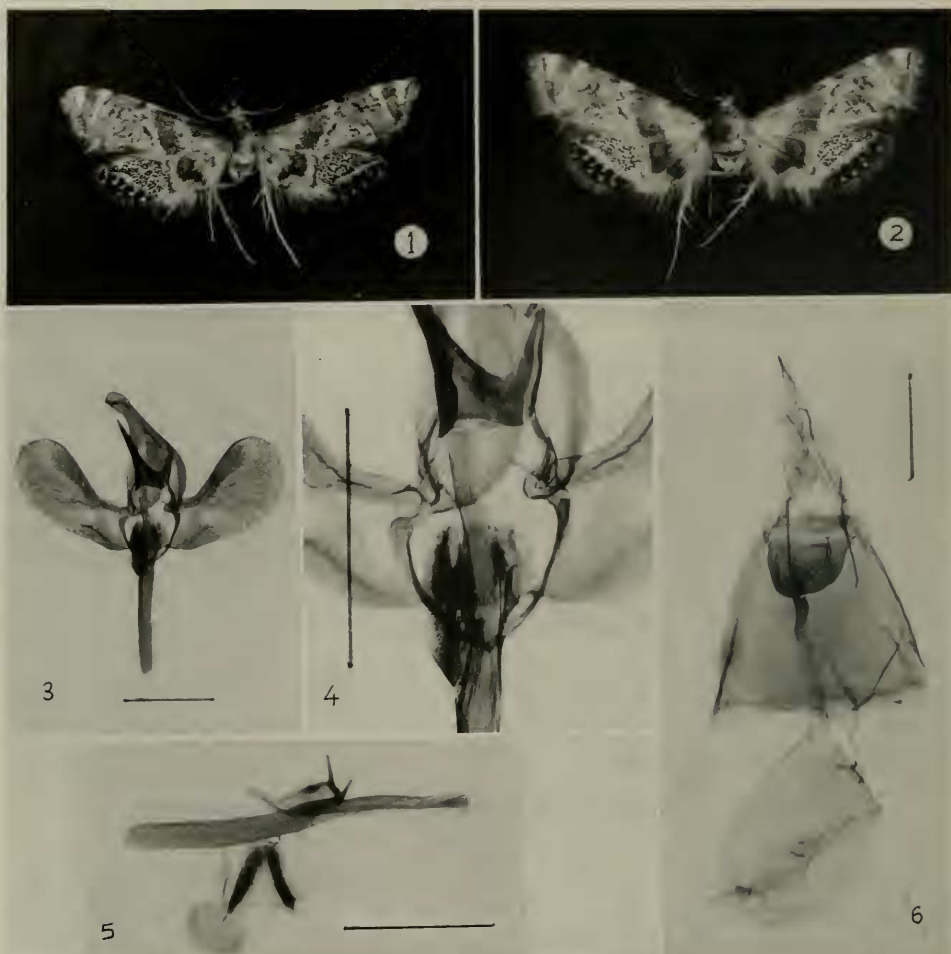
Figs. 1-6

Description.—*Head*: Front and vertex ochreous white. Maxillary palpus filiform, ochreous white, exceeding front by $\frac{1}{2}$ eye diameter. Labial palpus ochreous white with some fuscous scales laterally, slightly upturned, exceeding front by 1 eye diameter. Tongue ochreous white. Antenna simple, shortly pubescent in male. Scape whitish, flagellum alternating whitish and fuscous.

Thorax: Patagia and mesonotum ochreous white. Tegula brownish.

Abdomen: Ochreous white with brownish spots along middorsum.

Forewing: Ground white with fuscous, orange, and silver maculation. Basal $\frac{1}{4}$ heavily dusted with fuscous over costal $\frac{1}{2}$, mainly white over dorsal $\frac{1}{2}$. Antemedial fascia fuscous mixed with orange scales, bordered inwardly with white, and outwardly with white, followed by a dark fuscous line. Antemedial fascia and inner white border straight and slightly angled inwardly from costa. Outer white border and fuscous line produced over cell margins into 2 outwardly directed dentations. Beyond this, ground heavily overlain with fuscous, concentrated toward costa, and extending to apical fasciae and tornal patch. Reniform prominent, pale orange, with a dark fuscous border. Tornal patch orange, with a small silver spot at its dorsal margin. Terminal band orange, narrowly joined to tornal patch. Over apical portion, basad of terminal band, are 3 wedge-shaped fasciae, each broadest at costa. Outer wedge white, with silver patch at apex. Middle wedge orange and inner wedge white. Fringe fuscous, lighter outwardly, except for a small white patch opposite silver tornal spot.



Figs. 1-6. *Petrophila heppneri*. 1, Male holotype, Kerr Co., Texas 10 miles west of Hunt, 1-IX-80. 2, Female paratype, Colorado Co., Texas, Eagle Lake, 27-IV-78. 3, Male genitalia of paratype from Slide ECK 358, Kerr Co., Texas, Kerrville, 15-V-82. 4, Enlargement of preparation in Fig. 3. 5, Aedeagus, with portion of anellus and juxta attached, from holotype, slide ECK 355. 6, Female genitalia of paratype, from slide A.B. 3955, Kimble Co., Texas, Junction, 16-IV-74. The lines in Figs. 3, 4, 5, 6 represent 0.5 mm.

Hindwing: Ground white with no fuscous scaling basad of antemedial fascia. Antemedial fascia from anal angle to near costa, fuscous, with predominantly orange scaling centrally. Outwardly, antemedial fascia bordered by white, and further, by a fuscous line, which begins at anal angle and extends outwardly to near lower end of outer margin, from where it is angled upward, extending to near, but not reaching, costa. Beyond this, subapical $\frac{1}{2}$ heavily dusted with black scales, which do not extend to inner margin. Subterminal row of 5 intense black spots, preceded by an orange shade, and separated by 5 metallic silver spots. At varying degrees of light incidence, silver spots show purplish or greenish irides-

cence. Just basad of lowest black subterminal spot is a larger, dull silver patch. Along termen are 6 black and 4 orange bars, 2nd black bar from apex being weakest and 3rd being strongest. Between 2nd and 3rd black bars, there is no orange, but rather a continuation of adjoining silver spot. Fringe fuscous, lighter outwardly.

Length of forewing: Male: $N = 12$, 4.3–7.1 mm, average 5.8 mm; female: $N = 20$, 4.8–9.4 mm, average 6.9 mm.

Male genitalia (Figs. 3–5): Fig. 3 of entire genitalia; Fig. 4 an enlargement of same to show appearance of region of anellus with aedeagus in situ. Two linear mats of fine spines seen on anellus and 2 thornlike cornuti seen on outer surface of, and parallel to, aedeagus. Fig. 5 of a removed aedeagus from holotype. A portion of anellus, bearing 2 rows of spines and juxta still attached. Two cornuti seen in an erected position, perpendicular to aedeagus.

Female genitalia (Fig. 6): Ductus bursae joined asymmetrically to ostium bursae. Bursa lacking signum.

Holotype.—♂, Kerr Co., Texas, 10 miles west of Hunt, 1-IX-80, genitalia slide ECK 355, collected by E. C. Knudson and deposited in the National Museum of Natural History, Washington, D.C.

Paratypes.—Same data as holotype, 3 ♀; same locality, 22-VIII-81, 3 ♂, 6 ♀; Kerr Co., Texas, Kerrville, 15-V-82, 1 ♂, 1 ♀, all collected by E. C. Knudson; Blanco Co., Texas, Pedernales Falls St. Pk., 4-V-73, 5 ♂, 9 ♀; Kimball Co., Texas, Junction, 3-IV-68, 1 ♂; 16-IV-74, 1 ♀; 18-IV-74, 4 ♀; Colorado Co., Texas, Eagle Lake, 27-IV-78, 1 ♀, all collected by A. & M. E. Blanchard; Kerr Co., Texas, Kerrville St. Pk., 16-VII-74, 3 ♀, collected by J. B. Heppner.

Remarks.—*Petrophila heppneri* is included in a group of mainly smaller species in which the ductus bursae is joined asymmetrically to the ostium. It is distinguished from the other members of this group by the absence of spines in the bursa copulatrix. The moth is very similar to *Petrophila santafealis* (Heppner) (1976), which differs in having most of the orange markings replaced by fuscous. *Petrophila santafealis* is known only from central Florida. The species in the genus *Petrophila* Guiding have until recently been assigned to *Parargyractis* Lange.

The new species is named for Dr. John B. Heppner, who first reported its existence in the literature.

***Eoreuma arenella* Blanchard and Knudson, NEW SPECIES**

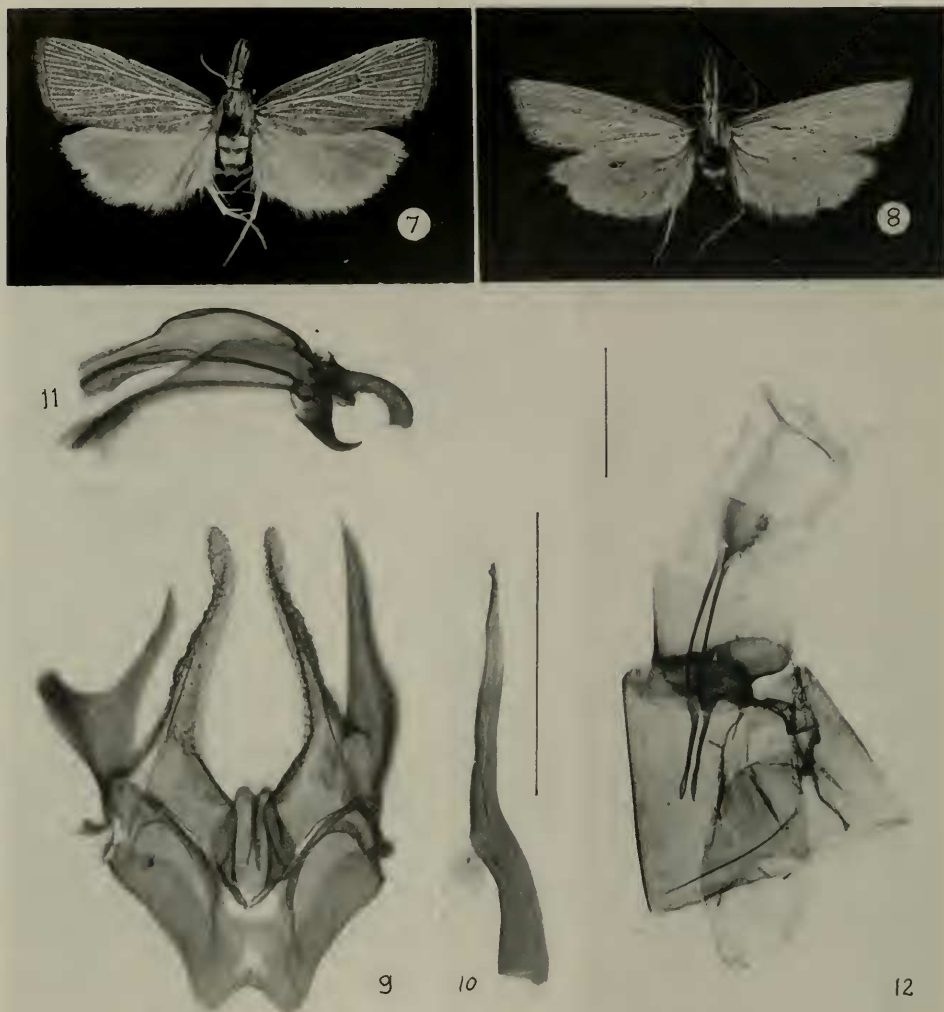
Figs. 7–12

Description.—*Head:* Front rounded. Front and vertex light buff. Maxillary palpus brushlike, light buff, exceeding front by 1 eye diameter. Labial palpus light buff with some fuscous scaling laterally, exceeding front by 4 eye diameters. Antenna simple, thicker in male. Scape light buff with blackish brown spot on inner surface. Flagellum scaled on dorsal surface, light buff, unscaled on lateral and ventral surfaces, pubescent, dark brown.

Thorax: Light buff with darker scales at base of patagia.

Abdomen: Light buff.

Forewing: Ground color shining light brownish gray with veins outlined in creamy white. Costa narrowly creamy white. Intervenular spaces lightly scaled with white. Black intervenular spots at termen. Fringe of 3 scale rows, each row



Figs. 7-12. *Eoreuma arenella*. 7, Male holotype, Padre Island Nat. Seashore, Texas, 19-VII-76. 8, Female paratype, same locality, 8-VI-78. 9, Male genitalia, dorsal view, tegumen, uncus, and gnathos removed, from slide ECK 363, same locality, 20-V-79. 10, Aedeagus of paratype, same preparation as Fig. 9. 11, Tegumen, uncus, and gnathos of paratype, same preparation as Fig. 9. 12, Female genitalia of paratype, lateral view, from slide A.B. 5090, same data as Fig. 2. The lines in Figs 10, 12 represent 1.0 mm. Figs. 9, 10, 11 are the same scale.

buff at base, mid-portion brown, apex whitish. Small dark brown discal spot variably present. Female differs from male in having more elongate forewing with ground color warmer light brown, otherwise like male.

Hindwing: Shining brownish white, veins pure white. Fringe white with faint brown terminal line.

Length of forewing: Male: $N = 20$, 7.4-10.7 mm, average 9.3 mm; female: $N = 2$, both 10.3 mm.

Male genitalia (Figs. 9-11): Fig. 9 a dorsal view of genitalia after removal of

aedeagus, tegumen, gnathos, and uncus. Costal processes of valvae asymmetrical, dextral process (shown on left in figure), with 2 arms, dorsal arm consistently much shorter and heavily setose. Fig. 10 of removed aedeagus, lateral view. Fig. 11 a lateral view of removed tegumen, gnathos, and uncus.

Female genitalia (Fig. 12): Figure shows lateral view of entire female genitalia. Ovipositor lobes laterally flattened, bladelike, sparsely setose. Ductus bursae short, narrow, membranous, arising from ventral aspect of bursa. Bursa copulatrix membranous, without signum. Ductus seminalis from bursa near junction of ductus bursae. Seventh segmental tergite large, with striate, partially membranous portion near lateral margin.

Holotype (Fig. 7).—♂, Padre Island National Seashore, Texas, 19-VII-76, with genitalia slide A. B. 3801, collected by A. & M. E. Blanchard and deposited in the National Museum of Natural History.

Paratypes.—Same locality as holotype, 22-IV-76, 1 ♂; 19-V-76, 1 ♂; 24-VI-76, 1 ♂; 19-VII-76, 2 ♂; 16-VIII-76, 4 ♂; 8-VI-78, 10 ♂, 1 ♀; 20-V-79, 4 ♂. Nueces Co., Texas, North Padre Island, 9-IX-74, 1 ♂; 7-VI-78, 2 ♂, 1 ♀; 11-VI-78, 1 ♂, all collected by A. & M. E. Blanchard.

Remarks.—*Eoreuma arenella* is closely related to *E. densellum* (Zeller), a widespread species, which occurs over the eastern half of Texas. *Eoreuma densellum* is somewhat variable in color and maculation, but generally the ground color is decidedly brown and there are usually darker brown scales in the intervenular spaces. The male genitalia are similar, but in *densellum*, the two arms of the costal process of the dextral valve are equal in length, or nearly so, and also nearly equal in width. According to Klots (1970), the ventral arm is usually the shorter in *densellum*. In *arenella*, this costal process is shorter and broader, with the dorsal arm markedly reduced and hirsute. In the authors' series of *arenella*, there is remarkable uniformity of coloration and male genitalia.

Eoreuma loftini (Dyar) has recently been found by the junior author in south and southwest Texas along the Rio Grande River. It is superficially similar to *arenella*, but distinguished by its conical frons and different male genitalia.

The name of the new species is taken from the latin *arena*, meaning sand, referring to the color of the insect, which closely resembles the sands of Padre Island, where it evidently prospers.

Acknowledgments

The authors are extremely grateful to John B. Heppner, Smithsonian Institution, and Douglas C. Ferguson, Systematic Entomology Laboratory, USDA, for examining the type-material and reviewing the manuscript. We are also grateful to the U.S. National Park Service and the Texas Department of Parks and Wildlife for their continued cooperation and assistance.

LITERATURE CITED

- Heppner, J. B. 1976. Synopsis of the Genus *Parargyractis* (Lepidoptera: Pyralidae: Nymphulinae) in Florida. Fla. Entomol. 59(1): 5-19.
- Klots, A. B. 1970. North American Crambidae: Notes on the Tribe Chiloni and a Revision of the Genera *Eoreuma* Ely and *Xubida* Schaus (Lepidoptera: Pyralidae). J. N.Y. Entomol. Soc. 78(2): 100-120.
- Munroe, E. 1972-73. Pyraloidea, Pyralidae (part). In Dominick, R. B. et al., The Moths of America North of Mexico, Including Greenland. Fasc. 13.1. Classey, London. 304 pp.